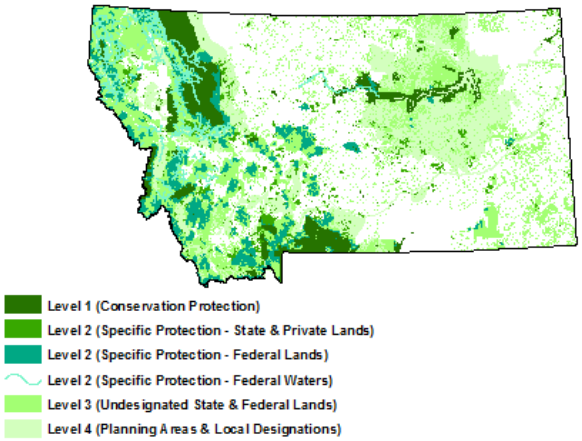
Montana Fish, Wildlife & Parks

Crucial Areas Assessment

DESIGNATED AREAS



SUMMARY: Designated areas depict lands and water bodies having biological, recreation, conservation and/or socioeconomic value based on a variety of conservation and management programs. This includes, but is not limited to federal, state and local designations; recreation areas, and conservation lands.

MEASUREMENT UNIT: This layer is comprised of polygons and lines of varying size. Source data were developed at scales of 1:24,000 and 1:100,000.

DATA SOURCE(S): Designated areas drew primarily from the stewardship layer managed by the Montana Natural Heritage Program (MTNHP). Other layers used include Montana Fish, Wildlife & Parks (FWP) lands, Bureau of Land Management (BLM) Areas of Critical Environmental Concern, U.S. Forest Service (USFS) Roadless Areas, Northwest Power Planning Council protected areas, and the national Protected Areas Database.

METHODS: Lands were categorized into seven value groups based on management practices, type of area (water body or land) and level of protection. These value groups are defined below.

- Level 1 (Conservation Protection): Public lands and privately owned preserves managed to retain a natural state and protected from conversion. These include national parks and federal wildlife refuges and wilderness areas.

- Level 2 (Specific Protection - State and Private Lands) : State Lands and privately owned conservation easements managed for specific purposes (waterfowl production, habitat preservation, recreation) and protected from some types of conversion. These include FWP wildlife management areas, state parks, conservation easements and fishing access sites and privately held conservation easements.

- Level 2 (Specific Protection Federal Lands)- Federal lands with preliminary designation for conservation protection from most types of conversion. These include USFS and BLM roadless areas.

- Level 2 (Specific Protection – Federal Waters) – Rivers and streams that have been protected from some types of conversion due to either a National Wild and Scenic Rivers System designation or the Northwest Power Planning Council Protected Areas Program

- Level 3 (Undesignated State and Federal Lands) -Public lands managed for natural resources including resource extraction (logging, grazing, mining) but protected from conversion to urban. These include all remaining USFS and BLM federal lands and State Lands.

- Level 4 (Planning Areas and Local Designations)- Lands that may not be managed or protected but are recognized as valuable from a biological or recreational standpoint. The protection status of many of these lands is unknown and some lands are privately owned with no protection. These include The Nature Conservancy Ecoregions, Audubon Bird Areas,

FINAL CATEGORIZATION: Lands were placed into value groups based on management practices and level of protection.

CONTACT: Lydia Bailey, Data Service Section: 406.444-5365 e-mail

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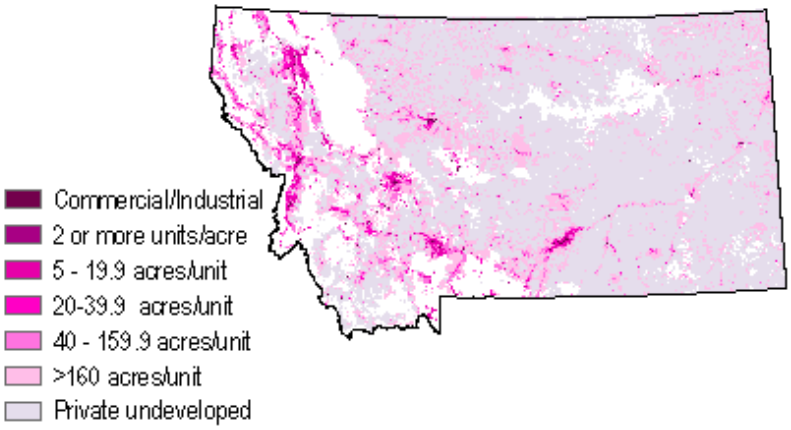
HOUSING DENSITY BY DECADE



SUMMARY: This layer represents housing density projections for Montana. The projections reflect housing density by decade, from 2000 to 2040. This layer allows users to visualize areas of the state that are projected to grow faster than others. The housing density projection layers can be overlaid with aquatic and terrestrial data layers. The metric is divided into six housing densities and a seventh category depicting commercial/industrial development.

MEASUREMENT UNIT: Aggregation of data from Census blocks by computing the average within a one-mile section.

DATA SOURCE(S) / QUALITY: The data are based upon: (1) 2000 US Census datasets for housing units and "year housing built" by Census block, and housing unit per population ratio and population projections per county; (2) the public/protected lands data layer from Montana's Natural Resource Information System (September 18, 2008); (3) county-level population projections from a demographic-econometric model (US EPA Integrated Climate and Land Use projections) and (4) commercial/ industrial land in 2000 according to the 2001 National Land Cover Data (US EPA).

DATA SOURCES
- [x] Survey data – counts or estimates
- [ ] Survey data – categorical (e.g. presence/absence)
- [ ] Expert opinion based on observation

DATA EXTRAPOLATION TECHNIQUE USED
- [ ] None
- [ ] Modeling of habitat-species associations (deductive)
- [x] Statistical modeling (inductive)
- [ ] Extrapolation to habitat unit (e.g. stream section)
- [ ] Extrapolation based on expert opinion

METHODS: Housing density projections were generated by a spatially explicit regional growth model (SERGoM) developed by Dr. David Theobald, Colorado State University. SERGoM assumes that: (1) future growth patterns will be similar to those found in the past decade, and (2) areas of future growth are likely to be near current high growth areas. The model converted population growth projections to projected number of new housing units. Urban, suburban, exurban, and rural density classes were each assigned a location-specific average growth rate. New housing units were spatially allocated based on these locally determined growth rates. The distribution of new housing units was adjusted according to accessibility (travel time) to the nearest urban core area. The new housing density was added to the current housing density. Public lands, protected private lands, and water bodies were removed from the set of potential development locations.

FINAL CATEGORIZATION: Twelve housing density categories were condensed into six. The commercial/industrial category was not adjusted.

CONTACT: Lydia Bailey – Data Services Section; 406.444.5635; lbailey@mt.gov
Doris Fischer – Strategic Planning Section; 406.842.7467; dofischer@mt.gov

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